

ACT Math Practice Set 2

1. The *lead* of a screw is the distance that the screw advances in a straight line when the screw is turned 1 complete turn. If a screw is $2\frac{1}{2}$ inches long and has a lead of $\frac{1}{8}$ inch, how many complete turns would get it all the way into a piece of wood?

A. 5 B. 10
C. 15 D. 20
E. 25

2. If $xy = 144$, $x + y = 30$, and $x > y$, what is the value of $x - y$?

F. 4 G. 6
H. 18 J. 22
K. 24

3. Which of the following is the sine of $\angle A$ in the right triangle below?

A. $\frac{5}{13}$
B. $\frac{5}{12}$
C. $\frac{12}{13}$
D. $12/5$
E. $\frac{13}{5}$



4. A boat departs Port Isabelle, Texas, traveling to an oil rig. The oil rig is located 9 miles east and 12 miles north of the boat's departure point. About how many miles is the oil rig from the departure point?

F. 3
G. $\sqrt{63}$
H. 15
J. 21
K. 225

5. Ding's Diner advertised this daily lunch special: "Choose 1 item from each column—only \$4.95!" Thus, each daily lunch special consists of a salad, a soup, a sandwich, and a drink.

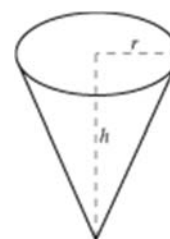
Salads	Soups	Sandwiches	Drinks
cole slaw	onion	meat loaf	milk
lettuce	tomato	chicken	cola
potato		hamburger	coffee
		ham	tea
		tenderloin	

6. How many different daily lunch specials are possible?

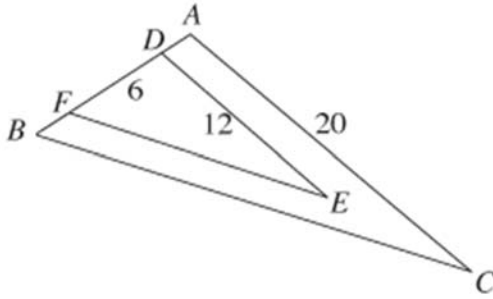
F. 4 G. 14
H. 30 J. 120
K. 180

7. The volume, V , of the right circular cone with radius r and height h , shown below, can be found using the formula $V = \frac{1}{3}\pi r^2 h$. A cone-shaped paper cup has a volume of 142 cubic centimeters and a height of 8.5 centimeters. What is the radius, to the nearest centimeter, of the paper cup?

A. 2
B. 4
C. 8
D. 12
E. 16



8. In the figure below, $\angle ABC \cong \angle DFE$, $\angle BAC \cong \angle FDE$, D and F are on AB , $AD \cong FB$, and distances in centimeters are as shown. What is the length of AD , in centimeters?



- A.** 5 **B.** 4
C. 3 **D.** 2
E. 1
9. Which of the following is a factor of the polynomial $2x^2 - 3x - 5$?
- F.** $x - 1$ **G.** $2x - 3$
H. $2x - 5$ **J.** $2x + 5$
K. $3x + 5$
10. What is x , the second term in the geometric series $\frac{1}{4} + x + \frac{1}{36} + \frac{1}{108} + \dots$?
 (Note: In a geometric series the ratio of any term to the following term is constant.)
- A.** $\frac{1}{3}$ **B.** $\frac{1}{9}$
C. $\frac{1}{12}$ **D.** $\frac{1}{18}$
E. $\frac{1}{18}$
11. What is the slope of any line parallel to the line $9x + 4y = 7$?

- F.** -9 **G.** $-\frac{9}{4}$
H. $\frac{9}{7}$ **J.** 7
K. 9

12. A DVD player with a list price of \$100 is marked down 30%. If John gets an employee discount of 20% off the sale price, how much does John pay for the DVD player ?

- A.** \$86.00
B. \$77.60
C. \$56.00
D. \$50.00
E. \$44.00

13. $\sqrt{-(-9)^2} = ?$
 (Note: $i = \sqrt{-1}$)

- F.** $9i$
G. $9 + i$
H. $9 - i$
J. 9
K. -9

Name				
Date		Period		

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4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	14	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Test Version: A ☐ B ☐ C ☐ D ☐

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